

to be put together so as to form a rectangular rack, on the cross-pieces of which are laid very heavy binders' pasteboards, and on these, in an orderly arrangement, the specimens are to be kept. As the inside measurement is twenty-seven and one-half by eighteen inches, specimens of ordinary size may be laid in two ranks. One can keep the left-hand row for his personal herbarium, and the right-hand for duplicates; and the size of the whole article may be modified easily to suit one's needs. To keep out the dust curtains may easily be fastened on wire so as to slide readily at the front; and permanent curtains may be tastefully fastened to sides and back, so that the general appearance will be quite ornamental, and the good wife will no more complain of those everlasting roots and herbs.—F. D. KELSEY, *Helena, Montana.*

✓ **Erigeron Tweedyi, n. sp.**—Whole plant (almost silvery) canescent with minute rather soft pubescence; caudex branching, bearing many rigid, erect slender stems a span high, sparingly branched near the summit, the branches monocephalous: radical leaves thickish and firm, broadly obovate-spatulate, abruptly acuminate, rather indistinctly callous-tipped, $\frac{1}{2}$ to $\frac{3}{4}$ inch long by $\frac{1}{2}$ to $\frac{1}{4}$ inch wide, on slender petioles twice their length; stem leaves few and small spatulate-lanceolate: heads rather small; bracts of the involucre narrow lanceolate, greenish with somewhat scarious margins: achenia compressed, hirsute; pappus simple.—Belonging to the section containing *E. asperuginus* Gray, and of striking appearance for the genus. The crowded caudices and obovate canescent radical leaves much resemble those of some species of *Eriogonum*, and are unlike those of any *Erigeron* I know of. Under the microscope the hairs of the leaves, etc., have a singular appearance, being composed of two (or sometimes three) cells, the lower one being generally much shorter and of less diameter than the upper. Growing on rocky dry hills along Trail Creek, southwestern Montana, at an elevation of 6,000 feet. It is a peculiar pleasure to give this plant the name of its discoverer, Mr. Frank Tweedy, author of an excellent catalogue of the "Flora of Yellowstone Park."—WM. M. CANBY, *Wilmington, Del.*

EDITORIAL.

IN NO one thing do American botanists show more negligence than in the historical study of a research. It seems to us that the *first* duty of a student is to find out what has been done by others in the line of observation selected, and the second to correct and extend those observations. One can hardly go amiss in choosing a field of work; but he may waste a great deal of valuable time in doing exactly what others have done before, time which should be spent in adding to preceding knowl-

edge. And if he rush into print before having studied the literature of the subject, he is apt to bring discredit upon the whole number of his fellow botanists. Happily (or unhappily?) American botanists are not the only ones who are guilty of this indiscretion, but are the more conspicuous only because the literature of anatomical botany in English is so small, compared with the vast volume of it in German and French. We have frequently to complain of our German friends for neglecting English writings. But they neglect a small portion of botanical literature. If we neglect German and French and Italian we "neglect the weightier matters of the law," and, quoting English writings only, "tithe mint and anise and cummin."

IT HAS OCCURRED to the writer that there has been a good deal of needless decrying of botanical work when compared with that of zoologists. The latter are ready enough to claim, and botanists are too ready to concede, that the science of zoology is far in advance of that of botany. Certain methods are possible in zoology which have not yet been attained in botany, but an unprejudiced examination of the results reached in the forefront of both these sciences will reveal an advance that is remarkably uniform. We do not refer to the work done by the "rank and file," but that of well known leaders. Zoologists are fortunate in having as their stock in trade forms of life in which man is specially interested. For instance, the public that listens with pricked up ears and discusses endlessly concerning the evolution of birds, mammals, and man, and thus brings a certain popularity to zoology, cares not a straw for the wonderful structures of lycopods and gymnosperms. One sort of compensation has been that botanists have been considered a sort of harmless folk; while zoologists are "infidel" or "progressive," apostles of darkness or of light, according to the stand-point of the speaker. Botanical work has been no less effective and advanced in these latter days, but it lacks that possibility of spectacular display which would keep it in the mouth of the public. Monkeys and men the public wants to know about, but pteridophytes and phanerogams are decidedly prosy. It will be found, upon a fair examination, that botany and zoology are so mutually dependent and helpful that one can not advance without the other.

OPEN LETTERS.

Vitality of seeds.

In addition to the observation on this subject in Vol. XII, p. 297, the following, which I recently gave in the *Florida Farmer and Fruit Grower*, may be of interest: In the summer of 1885, a quantity of muck was taken from two feet below the surface in a marsh, and covered with a Wardian case, exposing about six square feet of surface. Only one plant germinated, *Pilea pumila*, common in the locality. The sample was taken